

S/N 10/751,091

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Moeckly et al.	Examiner:	Paul A. Wartalowicz
Serial No.:	10/751,091	Group Art Unit:	1754
Filed:	01/02/2004	Docket No.:	10467.0043USI2

O I P E
1449
Title:

HIGH-TEMPERATURE SUPERCONDUCTOR DEVICES AND
METHODS OF FORMING THE SAME

CERTIFICATE UNDER 37 CFR 1.8:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 July 5, 2007.


By:
Name: Lisa Hill

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT (37 C.F.R. § 1.97(b))

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

With regard to the above-identified application, the items of information listed on the enclosed Form 1449 are brought to the attention of the Examiner.

This statement should be considered because it is submitted before the mailing date of a first Office Action on-the-merits. Accordingly, no fee is due for consideration of the items listed on the enclosed Form 1449.

In accordance with 37 C.F.R. §1.98(d), a copy of each document or other information listed on the enclosed Form 1449 is not provided because it was previously cited by or submitted to the U.S. Patent and Trademark Office in parent application, U.S. Serial No. 10/704,215 filed on November 6, 2003.

No representation is made that a reference is "prior art" within the meaning of 35 U.S.C. §§ 102 and 103 and Applicants reserve the right, pursuant to 37 C.F.R. § 1.131 or otherwise, to establish that the reference(s) are not "prior art." Moreover, Applicants do not represent that a reference has been thoroughly reviewed or that any relevance of any portion of a reference is intended.

Consideration of the items listed is respectfully requested. Pursuant to the provisions of M.P.E.P. 609, it is requested that the Examiner return a copy of the attached Form 1449, marked as being considered and initialed by the Examiner, to the undersigned with the next official communication.

Please charge any additional fees or credit any overpayment to Deposit Account No. 13-2725.



Respectfully submitted,

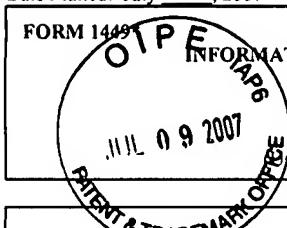
MERCHANT & GOULD
P. O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 336-4611

Date: July 5, 2007

By Tong Wu
Tong Wu
Reg. No. 43,361

Date Mailed: July 5, 2007

Sheet 1 of 3

 JUL 09 2007	Docket Number:	Application Number:
	10467.43US12	10/751,091
	Applicant: MOECKLY ET AL.	
	Filing Date: 01/02/2004	Group Art Unit: 1754

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4,916,116	04/10/1990	Yamazaki			
	4,943,558	07/24/1990	Soltis et al.			
	5,077,270	12/31/1991	Takeda et al.			
	5,087,605	02/11/1992	Hegde et al.			
	5,134,117	07/28/1992	Dilorio et al.			
	5,162,294	11/10/1992	Talvacchio et al.			
	5,162,298	11/10/1992	Chaudhari et al.			
	5,217,945	06/08/1993	Wada et al.			
	5,696,392	12/09/1997	Char et al.			
	5,892,243	04/1999	Chan			
	5,904,861	05/1999	Ban et al.			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	0 521 765 A2	01/07/1993	EP				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	"Poster Sessions", <i>Source Unknown</i> , pg. 109 (1994)
	Agostinelli, J. et al., "Cubic Phase in the Y-Ba-Cu-O System", <i>Physical Review B</i> , Vol. 43, No. 13, pp. 11 396-11 399 (May 1991)
	Agostinelli, J.A. et al., "YBCO-based Ramp-edge Josephson Junctions and DC SQUIDs with a Cubic-YBCO Barrier Layer", <i>Physica C</i> , Vol. 207, pp. 203-207 (1993)
	Aharoni, E. et al., "Barriers Formed by a Plasma Discharge Process in all YBCO Josephson Edge Junctions", <i>Physica C</i> , Vol. 235-240, pp. 3339-3340 (1994)
	Antognazza, L. et al., "Proximity Effect In $YBa_2Cu_3O_7-\delta$ /YBa ₂ (Cu _{1-x} Co _x) ₃ O ₇ - δ /YBa ₂ Cu ₃ O _{7-δ} Junctions: From the Clean Limit to the Dirty Limit with Pair Breaking", <i>Physical Review B</i> , Vol. 51, No. 13., pp. 8560-8563 (April 1995)
	Budhani, R.C. et al., "Modification of $Y_2Ba_4Cu_8O_{16}$ Thin-Film Surfaces by Interaction with A Radio Frequency Excited Oxygen Plasma", <i>App. Phys. Lett.</i> , Vol. 55, No. 22, pp. 2354-2356 (November 27, 1989)
	Char, K. et al., "Crystal Interface Engineering In High T _c Oxides" <i>MRS Bulletin</i> , pp. 51-55 (September 1994).
	Gray, "Strontium Ceramics For Chemical Applications," <i>Journal of Power Sources</i> , Vol. 6, pp. 121-142 (1981).
	Harada, K. et al., "Heteroepitaxial Growth of Y-Ba-Cu-O/Bi-Sr-Cu-O/Y-Ba-Cu-O", <i>Japanese Journal of Applied Physics</i> , Vol. 29, No. 7, pp. L1114-L1116 (July 1990)
	Heinsohn, J. et al., "Current transport in ramp-type junctions with engineered interface," <i>Journal of Applied Physics</i> , Vol. 89, No. 7, pp. 3852-3860 (April 1, 2001).

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

FORM 1449* INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION <small>(Use several sheets if necessary)</small>		Docket Number: 10467.43US12	Application Number: 10/751,091
		Applicant: MOECKLY ET AL.	
		Filing Date: 01/02/2004	Group Art Unit: 1754

	Hunt, B. et al., "High Temperature Superconductor Josephson Weak Links", <i>Second Symposium on Low Temperature Electronics and High Temperature Superconductivity, Electrochemical Society Meeting, Honolulu, Hawaii</i> , Vol. 93-22, pp. 467-472 (May 1993).
	Hunt, B.D. et al., "High-T _c Superconductor/normal-metal/superconductor Edge Junctions and SQUIDs with Integrated Groundplanes", <i>Appl. Phys. Lett.</i> , Vol. 68, No. 26, pp. 3805-3807 (June 24, 1996).
	Ishimaru, Y. et al., "Evaluation of fabrication process and barrier structure for interface-modified ramp-edge junctions," <i>Physica C</i> , Vol. 378-381, pp. 1327-1333 (2002).
	Jia, C.L et al., "Effect of Chemical and Ion-beam Etching on the Atomic Structure of Interfaces in YBa ₂ Cu ₃ O ₇ /PrBa ₂ Cu ₃ O ₇ Josephson Junctions", <i>Appl. Phys. Lett.</i> , Vol. 67, No. 24, pp. 3635-3637 (December 11, 1995).
	Katsuno, H. et al., "Characteristics of interface-engineered Josephson junctions using a YbBa ₂ Cu ₃ O ₇ counterelectrode layer," <i>Applied Physics Letters</i> , Vol. 79, No. 25, pp. 4189-4191 (December 17, 2001).
	Kito, T. et al., "Excess-current-free stacked Josephson junctions with high I_cR_n product," <i>Physica C</i> , Vol. 378-381, pp. 1322-1326 (2002).
	Kleinsasser, A.W. et al., "Demonstration of the Proximity Effect in YBa ₂ Cu ₃ O _{7-x} Edge Junctions", <i>Appl. Phys. Lett.</i> , Vol. 66, No. 1, pp. 102-104 (January 2, 1995)
	Koren, G. et al., "Oxygen Controlled Transition from Tunnel-like to a Weak Link Behavior in YBa ₂ Cu ₃ O _{7-x} /YBa ₂ CoCu ₂ O _y /YBa ₂ Cu ₃ O _{7-y} Wedge Edge Junctions", pp. 1-14 (Date Unknown)
	Koren, G. et al., "YBa ₂ CoCu ₂ O _y , PrBa ₂ CoCu ₂ O _y and PrBa ₂ Cu ₃ O _{7-y} as Barriers/Insulators in YBa ₂ Cu ₃ O _{7-y} Based Josephson Junctions", <i>Physica C</i> , Vol. 225, pp. 21-24 (1994).
	Koren, G. et al., "All High T _c Josephson Junctions and Their I _c R _N Versus J _c Behavior", 21 pages (April-May 1995) and in <u>Coherence in High Tc Superconductors</u> , Eds. G. Deutscher and A. Revcolevschi, World Scientific Pub Co. Singapore (1996) pp 333-353.
	Kye, J. et al., "Interface-modified YBCO ramp-edge Josephson junctions by deionized water," <i>Supercond. Sci. Technol.</i> , Vol. 14, pp. 1056-1059 (2001).
	Laibowitz, R.B. et al., "All High T _c Edge Junctions and SQUIDs", <i>Appl. Phys. Lett.</i> , Vol. 56, No. 7, pp. 686-688 (February 12, 1990)
	Mallison, W. H. et al., "A multilayer YBa ₂ Cu ₃ O _x Josephson Junction Process for Digital Circuit Applications", <i>Appl. Phys. Lett.</i> , Vol. 68, No. 26, pp. 3808-3810 (June 24, 1996).
	Mizuno, K. et al., "Fabrication of Thin-Film-Type Josephson Junctions Using a Bi-Sr-Ca-Cu-O/Bi-Sr ₂ -Cu-O/Bi-Sr-Ca-Cu-O Structure", <i>App. Phys. Lett.</i> , Vol. 56, No. 15, pp. 1469-1471 (April 9, 1990)
	Moekly B. H. et al., "Properties of Interface-engineered High T _c Josephson Junctions", <i>Appl. Phys. Lett.</i> , Vol. 71, No. 17, pp. 2526-2528 (October 27, 1997)
	Polturak, E. et al., "Proximity Effect in YBa ₂ Cu ₃ O ₇ /Y _{0.6} Pr _{0.4} Ba ₂ Cu ₃ O ₇ /YBa ₂ Cu ₃ O ₇ Junctions", <i>Physical Review Letters</i> , Vol. 67, No. 21, pp. 3038-3041 (November 18, 1991)
	Reagor, D. et al., "Development of High Temperature Superconducting Josephson Junctions and Quantum Interference Devices Using Low Deposition Temperature YBa ₂ Cu ₃ O _{7-x} Barriers", <i>Appl. Phys. Lett.</i> , Vol. 66, No. 17, pp. 2280-2282 (April 24, 1995)
	Satoh, T. et al., "Effect of Lanthanum Doping of YBaCuO Electrodes on the Characteristics of Modified-Interface Edge Junctions," 4 pgs. (August 5, 2002).
	Tamegai, T. et al., "Universal transport anomaly in YBa ₂ Cu ₃ O ₇ -type systems with reduced carrier density," <i>Physical Review B: The American Physical Society</i> , Vol. 44, No. 18, pp. 10 167 - 10 172 (November 1, 1991).
	Tinchev, S., "Rapid Communication: 'Interface-engineered' high T _c Josephson junctions: a possible mechanism of operation," <i>Supercond. Sci. Technol.</i> , Vol. 12, pp. L5-L7 (1999).
	Wen, J. et al., "Atomic structure and composition of the barrier in the modified interface high-T _c Josephson junction studied by transmission electron microscopy," <i>Applied Physics Letters</i> , Vol. 75, No. 16, pp. 2470-2472 (October 18, 1999).
	Wu, C.C. et al., "Surface Modification of Indium Tin Oxide by Plasma Treatment: An Effective Method to Improve the Efficiency, Brightness, and Reliability of Organic Light Emitting Devices", <i>Appl. Phys. Lett.</i> , Vol. 70, No. 11, pp. 1348-1350 (March 17, 1997)
	Wu, Y. et al., "Structural variation of the interface-engineered layers in YBa ₂ Cu ₃ O _{7-x} thin films," <i>Physica C</i> , Vol. 366, pp. 51-56 (2001).

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

Date Mailed: July 5, 2007

Sheet 3 of 3

FORM 1449* INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (Use several sheets if necessary)		Docket Number: 10467.43US12	Application Number: 10/751,091
		Applicant: MOECKLY ET AL.	
		Filing Date: 01/02/2004	Group Art Unit: 1754

		Yoshida, J., "Recent Progress of High-Temperature Superconductor Josephson Junction Technology for Digital Circuit Applications," <i>IEICE Trans. Electron.</i> , Vol. E83-C, No. 1, pp. 49-59 (January 2000).
		Yoshida, J. et al., "Current transport in interface-engineered high-T _c Josephson junctions," <i>Physica C</i> , Vol. 367, pp. 260-266 (2002).
		Yoshida, J. et al., "Interface-engineered Junctions with YbBaCuO as the Counter-electrode," pp. 1-5 (2002).
		Yoshitake, T. et al., "Effect of Oxygen Plasma Annealing on Superconducting Properties of Bi ₂ (Sr,Ca) ₃ Cu ₂ O _x and YBa ₂ Cu ₃ O _{7-δ} Thin Films", <i>Appl. Phys. Lett.</i> , Vol. 56, No. 6, pp. 575-577 (February 5, 1990)

23552

PATENT TRADEMARK OFFICE

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.